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Recent progress towards a chiral effective field theory for the NN system

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Since Weinberg's proposal two decades ago, chiral effective field theory in the NN sector has been developed and applied up to order O((Q/M_hi)ˆ4). In principle it could provide a model-independent description of nuclear force from QCD. However, in spite of its huge success, some open issues such as the renormalization group invariance and power counting, still remain to be solved. In this talk we refine the chiral effective field theory approach to the NN system based on a renormalization group analysis. Our results show that a truly model-independent description of NN system can be obtained by a new power counting which treats the subleading order corrections perturbatively.

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